DEFENSE LOGISTICS AGENCY
Defense Energy Support Center

DoD Concerns with Heavy-Duty Diesel Vehicle and Fuel Proposed Rule

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EPA Proposal

- Establishes Heavy-Duty Engine Standards and Highway Diesel Fuel Sulfur Controls
  - Regulates heavy-duty vehicle and fuel as a single system
  - 2007 emission standards require catalytic exhaust controls that are intolerant to sulfur
  - Diesel fuel sulfur limits in June 2006 require ultra low sulfur in diesel fuel – 15 ppm

DoD Concerns

- Rule would preclude use of JP-8 in tactical heavy-duty diesel engines because of control technology –JP-8 high sulfur fuel
- Ultra low sulfur reduces lubricity in fuel
- Stress on refiners may impact availability and quality of military fuels
- Transporting numerous grades may impact fuel distribution system

DoD/EPA Interaction to Date

- DoD commented on Advance Notice of Proposed Rulemaking
- DoD provided comments during OMB interagency review
- DoD/EPA met on 19 July to further discuss issues raised
- EPA requested data to support national security exemption request

Use of JP-8 is Critical to Operational Readiness

- DoD has identified JP-5/8 as the Single Battlefield Fuel for both aviation and ground support operations
- Use of a single fuel by all combat forces is a significant combat multiplier and affords important logistical advantages
- To enhance readiness, rapid deployment land forces are converting to use of JP-8 at U.S. home bases

Why JP-8 is Important

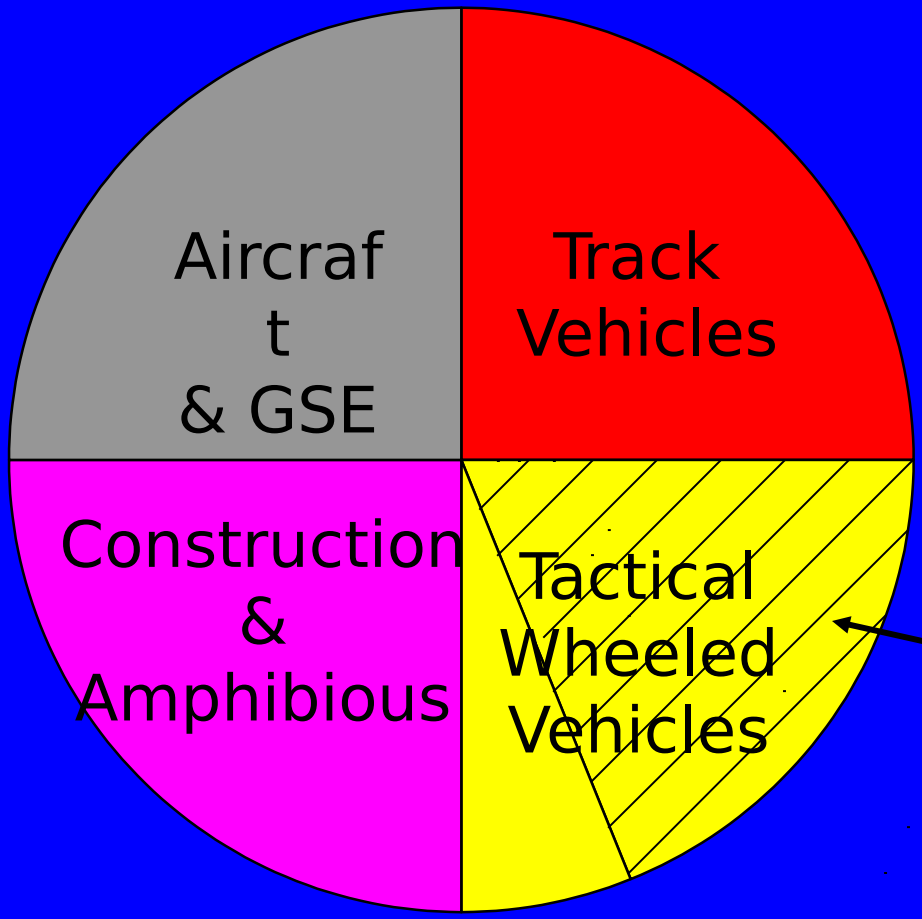
- JP-8 is the fuel of choice at home and abroad for logistical, maintenance and operational reasons
  - Allows worldwide consistency in distribution and procurement; removes need to segregate fuels by grade/season
  - Inter-Service, and NATO operability and interchangeability enhanced
  - Reduces maintenance costs, improves fuel economy, and lowers overall system costs

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Military Equipment that Uses JP-8 as Primary Fuel in the Battlefield

- Combat track vehicles, (tanks, cargo carriers, mortar carriers)
- Tactical wheeled vehicles, (cargo trucks, HMMWVs, tractor trucks)
- Fixed wing aircraft and helicopters, ground support equipment, generator sets, and power plants
- Construction, amphibious, and material handling equipment

JP-8 Use Compared to Diesel Rule Scope



Existing Vehicle National Security Exemption

- Sec 203(b)(1) of CAA authorizes EPA to exempt vehicles for “national security” reasons
- EPA regulations exclude vehicles with tracks, armor, or weaponry from definition of motor vehicles; thus exempt from emission standards
- For those tactical vehicles not automatically exempted, Army and EPA have developed procedures for processing conditional NSEs

Military JP-8 Exemption

- In 1995 EPA determined use of JP-8 in tactical vehicles was not a violation of existing fuel regulations. Rationale:
  - JP-8 did not meet the definition of diesel fuel
  - Emission data showed no significant adverse impact from use
  - Operational readiness, logistical considerations and cost warranted allowing use of JP-8
- EPA now considering whether finding is still valid. To extent new heavy-duty vehicles use sulfur-sensitive technology misfueling with JP-8 would render new technology engines ineffective

JP-8 in Diesel-Equipped Vehicles: DoD Recommended Solutions

- Military to make use of National Security Exemption agreement to exempt HD diesel vehicles from engine standards unless or until availability of low-sulfur aviation fuel allows re-assessment of need for exemption.
- EPA continues determination that JP-8 does not meet the regulatory definition of diesel fuel, and continues exemption for use of JP-8 in military ground vehicles.

Air Quality Impacts

- Only a small portion of tactical equipment subject to HD Diesel Rules
- Military vehicles small percentage of national Heavy-Duty diesel inventory
- Military HD fleet operated only a fraction of what the commercial sector experiences

Lubricity

- Poor fuel properties increase wear on fuel systems (fuel pumps and injection systems)
- Change is fuel formulation has adversely impacted military vehicles; No industry standard in U.S.
- DoD handles on a case-by-case basis relying on commercial infrastructure; additives costly: 1- 5 cents per gallon
- Recommendation: EPA impose industry-wide implementation deadline to develop standard(s)

Impact on Availability & Quality of Military Fuels

- Availability: May reduce number of refineries that produce military specialty fuels.
- Quality: Harsher refining processing could adversely affect jet fuel quality (thermal stability)
- Quality:Naval Distillate (F-76): Use of light cycle oil to make finished diesel can be unstable affecting long-term storage for war reserve.
- Recommendation: EPA be responsive & willing to work with any refiner that needs flexibility to accommodate military specialty fuels

Domestic Distribution System Impact on Military Fuels

- DoD relies heavily on commercial pipeline systems to transport bulk DoD fuels
- Military fuels are non-fungible, require special handling; compete with fungible space in pipelines & tank storage
- Domestic system already capacity-strained
- Adding new grades of fuel to system could adversely impact DoD, especially during transition period
- Recommendation: EPA to weigh impact of transition period on DoD's ability to transport military fuels through commercial distribution system

Summary

- DoD Comments and Recommendations to be signed out by DUSD(ES) due 14 Aug
- Services collecting and verifying data to support national security exemption, will continue discussions with EPA
- DoD must address enforcement procedures to ensure compliance at Military bases/installations
- Final rule scheduled for Dec 2000